



Keep the Promise at COP4

The PCB Elimination Club – An IPEN Perspective

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Summary Position:

UNEP/POPS/COP.4/9 introduces proposals for the “*PCB Elimination Club*” or ‘*PEC*’ as “*a cooperative framework to support Parties to eliminate polychlorinated biphenyls through environmentally sound management and disposal*”.

The PEC has been developed by the Secretariat “*in consultation with a small group of stakeholders*” as “*a cooperative framework*” to “*support developing country Parties and Parties with economies in transition to eliminate polychlorinated biphenyls through environmentally sound management*”.

The suggested ‘Mission Statement’ of the PEC is:

“A framework is established that promotes and facilitates the delivery of the obligations of the Stockholm Convention on the environmentally sound management of PCBs”.

The proposed Aim of the PEC is:

“to promote and encourage the environmentally sound management of PCBs oils and equipment containing PCBs from identification to disposal toward the achievement of the 2025 and 2028 goals of the Stockholm Convention”.

Membership is open to Governments (both as Parties and Non-Parties to the Stockholm Convention); Industry and business sector; Holders of PCBs; Donors; Intergovernmental Organizations (IGOs); Experts; and NGOs.

It is proposed that an Advisory Committee composed of 22 representatives from the various categories of members, as illustrated below, should meet annually to review the activities undertaken by the PEC; establish the direction for future work of the PEC and adopt its workplans. Crucially the Advisory Committee would also prepare any reports on activities of the PEC for review by the COP.

Members	Number of representatives	Members	Number of representatives
Parties to the Stockholm Convention	10 (2 per region)	Donors	2
Industry	2	Experts	2
Holders of PCBs	2	NGOs	2
IGOs	2	SUM	22

The proposed budget for the PEC is \$536,750 for the period 2009-12.

Possible Actions:

The Secretariat proposes the Conference of the Parties should consider “*possible endorsement of the establishment of the PCBs Elimination Club*”.

Issues Arising:

The best available data currently available [1] indicates that the global total PCB production was approximately 1.3 million tonnes over the period from 1930 to 1993 - more than 70% of which are tri-, tetra- and pentachlorinated biphenyls.

Approximately half of the total production was in the United States. Only 10% of the total was outside the USA, USSR, West Germany, France, UK and Japan. Breivik [2] suggest that almost 97% of the global historical use of PCBs have occurred in the Northern Hemisphere

About 48% of PCBs were used for transformer oil; c. 21% for small capacitors; 10% for other 'nominally closed' systems; and 21% for open uses.

It is estimated that between 12.9% and 16.5% of the original PCBs remain in use – the majority of which are in long-lived closed systems [1]. Many electrical transformers containing, or contaminated with, PCBs remain in use and it is estimated that c. 4 million tonnes of such equipment will eventually require environmentally sound waste management [3]. The real figure may be even higher. The Stockholm Convention secretariat has reviewed the PCB data in the National Implementation Plans from 88 of the 98 parties who have so far submitted them (another 64 are outstanding – 46 of which are overdue – many by nearly two years). The results show that >6,431,886 tonnes of PCB contaminated oil together with 472,853 tonnes of contaminated equipment are listed by these 88 parties alone [4].

With current total treatment costs of US \$2,000 to \$5,000 per tonne (including packing, transport and destruction) this would amount to an estimated US \$8 to \$35 billion to manage transformer-associated PCBs alone. A comparison to the US \$550 million allocated GEF funding for the Stockholm Convention from 2003 to 2010 demonstrates the magnitude of the financial challenge to implement the PCB obligations of the Stockholm Convention by the target date of 2028 [3].

The costs of inaction are even higher. The clean up and rehabilitation costs a single transformer fire in the US in the 1980s over the ten years after the accident ran to more than \$40 million¹ [5]. The building had only cost \$17 million to construct. Fires in less affluent countries will have resulted in lower costs but almost certainly greater levels of damage to human health and the environment.

The proposals for the PEC covers only these 'closed system' uses of PCBs in transformers and transformer oil yet approximately 50% of the total² emissions have come from the 'open system' uses. These open systems, such as building sealants, have resulted in total emissions about five times higher than closed systems. Whilst some countries have taken positive steps to address remaining open system uses (notably Norway, Sweden, Finland and Switzerland) other countries known to have similar problems have not even acknowledged these uses in their National Implementation Plans

Incineration of PCBs has resulted in some high levels of releases to the environment [6, 7] and non-incineration alternatives should be used where possible.

IPEN Perspective:

The PCB Elimination Club is a welcome opportunity to help to address a continuing and serious environmental problems associated with the continuing use of PCBs in electrical equipment and transformers.

It is essential that the PEC should encourage open exchange of data and information in order that the problems of PCBs can be accurately quantified and that particular consideration should be given to small and medium sized enterprises faced with large PCB disposal costs.

The remit is, however, too limited. It should be broadened to include the often forgotten environmental and human health risk associated with PCBs in open uses such as building sealants. These have been the most important sources of emissions yet are rarely discussed in the context of the Stockholm obligations.

¹ Equivalent to significantly more than 100 times the budget of the PEC at current values.

² including those from accidental releases; direct emissions; open burning, landfill and incineration

The Secretariat has suggested that they did not consider the remit of the PEC extending to the promotion of non-combustion treatment. This view needs to be robustly challenged and priority must be given to disposal and elimination technologies which do not produce POPs.

The budgets available for PCB elimination are currently completely inadequate and need to be increased if serious future contamination is to be avoided.

EndNotes

1. Breivik, K., et al., *Towards a global historical emission inventory for selected PCB congeners -- A mass balance approach: 3. An update*. Science of The Total Environment, 2007. **377**(2-3): p. 296-307.
2. Breivik, K., et al., *Towards a global historical emission inventory for selected PCB congeners -- a mass balance approach: 1. Global production and consumption*. The Science of The Total Environment, 2002. **290**(1-3): p. 181-198.
3. Weber, R., et al., *Dioxin - and POP- contaminated sites—contemporary and future relevance and challenges* <<http://www.springerlink.com/content/0q10km8582605r1x/fulltext.pdf>>. Environmental Science and Pollution Research, 2008.
4. Stockholm Convention, *Matters for consideration or action by the Conference of the Parties: effectiveness evaluation UNEP/POPS/COP.4/30 Appendix I Quantities of POPs reported in national implementation plan inventories of 88 Parties to the Convention*. 2009.
5. Schechter, A. and K. Charles, *The Binghamton State Office Building transformer incident after one decade*. Chemosphere, 1991. **23**(8-10): p. 1307-1321.
6. Lovett, A.A., et al., *The Panteg monitoring project: comparing PCB and dioxin concentrations in the vicinity of industrial facilities*. Journal of Hazardous Materials, 1998. **61**(1-3): p. 175-185.
7. Ball, D., et al., *Polychlorinated Biphenyls, Dioxins, and Furans in the Pontypool Environment—The Panteg Monitoring Project, Final Report to the Welsh Office, July 1993*. 1993, Schools of Environmental Sciences and Chemical Sciences University of East Anglia (UEA).